




# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,656	02/11/2002	Cory Watkins	1552-CA-2	6269
7590 05/10/2004			EXAMINER	
VP, General Counsel & Secretary AUGUST TECHNOLOGY CORP. 4900 West 78th Street Bloomington, MN 55435			SOHN, SEUNG C	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/073,656	WATKINS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Seung C. Sohn	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign mentioned in the description: optical subsystem **124** disclosed in page 3, line 11 and page 4, line 8. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

2. **Claims 2-5** are objected to because of the following informalities:

On claim 2, line 3, "a surface" after "scanning" should be -- the surface --.

On claim 2, line 5, "the light intensity" after "measuring" should be changed to -- a first light intensity -- for clarity.

On claim 2, line 6, "the light intensity" after "measuring" should be changed to -- a second light intensity -- for clarity.

On claim 2, line 9, "the light intensities" before "measured" should be changed to -- the first and second light intensities -- for clarity.

On claim 3, line 2, "a surface" after "portions of" should be -- the surface --.

On claim 3, line 3, "a camera" before "capable of" should be changed to --the camera --.

On claim 3, line 5, "the light intensity" after "measuring" should be changed to – a third light intensity – for clarity.

On claim 3, line 6, "the light intensity" after "measuring" should be changed to – a fourth light intensity – for clarity.

On claim 3, line 8, "the light intensities" before "measured" should be changed to -- the third and fourth light intensities -- for clarity.

On claim 4, line 3, "a protrusion" after "the elevation of" should be changed to – the protrusion --.

On claim 5, line 4, "a beamsplitter" before "for receiving light" should be changed to – a pellicle beamsplitter – for consistency.

On claim 5, line 8, "a camera" before "for collecting focused light" should be changed to –the camera --.

On claims 2-5, the word "protrusion" should be changed to – bump – as on the preamble in claim 2, or vice versa, for consistency.

Appropriate correction is required.

### ***Double Patenting***

3. ***Claims 2-5 of this application conflict with claims 2-5 of Application No. 10/073,613.*** 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either

Art Unit: 2878

cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. ***Claims 2-5 are provisionally rejected under 35 U.S.C. 101*** as claiming the same invention as that of claim 2-5 of copending Application No. 10/073,613. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. ***Claims 7-10 are rejected under 35 U.S.C. 112, first paragraph***, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not provide the step of

*selecting a focus range* when light intensities are zero. Specifically, the description of page 9, lines 1-29 as Applicant suggests does not support the claimed limitation.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. **Claims 6-10 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **Regarding claim 6**, line 2, "a surface" is unclear and confusing. Does "a surface" refer to a surface in claim 1, line 3 or another surface? Clarification is required. In line 5, "a camera" is unclear and confusing. Does "a camera" refer to a camera in claim 1, line 3 or another camera? Clarification is required. Also, in line 9, "the protrusions" lacks antecedent basis. **Regarding claims 6-10**, "elevation" is unclear what does it mean of? Does "elevation" mean the elevation of the surface or of the system? Clarification is required. **Regarding claim 7**, line 3, "a protrusion" is unclear and confusing. Does "a protrusion" refer to a protrusion in claim 6, line 2 or another protrusion? Clarification is required. **Regarding claim 8**, line 3, "the surface" is unclear and confusing. Does "the surface" refer to a surface in claim 1, line 3 or a surface in claim 3, line 2? Clarification is required.

#### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2878

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. ***Claims 2-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kerstens et al. (Patent No. US 5,248,876).***

Referring to claim 2, Kerstens et al. discloses the following steps of Applicant's claim:

- a) scanning a surface using optics (lens) and a camera (CCD sensor) capable of determining light intensity for each pixel viewed (Col. 8, lines 26-34);
- b) measuring the light intensity at each pixel at a first elevation (Col. 7, lines 49-54);
- c) measuring the light intensity at each pixel at a second elevation (Col. 7, lines 49-54); and
- d) determining the elevation of the surface using a Gaussian curve based upon the light intensities measured at the first and second elevations at each pixel (Col. 7, lines 55-66).

Referring to claims 3 and 6, Kerstens et al. discloses following further steps of Applicant's claim:

- e) scanning at least particular portions of a surface believed to contain protrusions extending outward from the surface using optics and a camera capable of determining light intensity for each pixel viewed (Col. 8, lines 26-34);
- f) measuring the light intensity at each pixel at a third elevation (Col. 2, lines 30-41);

g) measuring the light intensity at each pixel at a fourth elevation (Col. 2, lines 30-41); and

h) determining the elevation of the protrusions using a Gaussian curve based upon the light intensities measured at the third and fourth elevations at each pixel (Col. 7, lines 55-66).

**Referring to claim 4**, Kerstens et al. discloses the step of determining the height of a protrusion by calculating the difference between the elevation of a protrusion and the elevation of the surface (Fig. 8, Col. 8, lines 38-65).

**Referring to claims 7-10**, Kerstens et al., insofar as understood, discloses the step of selecting a focus range such that the light intensities at both the first elevation and the second elevation are substantially zero at a protrusion (Col 9, lines 8-26).

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kerstens et al. (Patent No. US 5,248,876) in view of Lam (Patent No. 5,408,294).**

**Referring to claim 5**, Kerstens et al. shows in Fig. 1 the following elements of Applicant's claim:

a) a light source (100);



b) a beamsplitter (106) for receiving light from the light source (100) and redirecting said light;

c) an aperture array (116) for receiving light from the beamsplitter (106) (Col. 4, lines 40-44);

d) at least one reimager (118) (Col. 4, lines 46-56); and

e) a camera (114, i.e., CCD sensor) for collecting focused light.

Kerstens et al. discloses the claimed invention as set forth above, but does not disclose that the beamsplitter is pellicle beamsplitter. Lam shows in Fig. 1 the pellicle beamsplitter (64). It would have been obvious to one of ordinary skill in the art to provide the pellicle beamsplitter of Lam on the device of Kerstens et al. for the purpose of avoiding image displacement (Col. 7, lines 38-49).

### ***Response to Arguments***

10. Applicant's arguments filed on November 7, 2003 have been fully considered but they are not persuasive.

In responding to Applicant's argument that Kerstens et al reference does not have a Gaussian curve based on light intensities measured at a first and a second elevation, Examiner disagrees. Kerstens et al. does disclose that Gaussian curves 226, 228 etc. in Fig. 7 provide relative intensity resulting from any surface within ranges provided for corresponding slits 202, 204, etc., where each slit provides sufficient image data to generate a complete image *at a different elevation* of the object for each image (Col. 7, lines 49-66).

***Conclusion***

**11. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung C. Sohn whose telephone number is (571) 272-2446. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2878

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SCS

SCS

  
THANH X. LUU  
PATENT EXAMINER